



# Developing a Web-Based Mobile Game to Enhance Students' Motivation in learning English Vocabulary

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## Abstract

This study investigated the effectiveness of web-based mobile games in enhancing the students' motivation and vocabulary acquisition. The research employs a Research and Development (R&D) using the ASSURE model. The web-based mobile gaming platform, "Wordwall", was implemented to achieve these objectives. Testing was conducted with 20 seventh-grade students from SMPN 7 Palopo. The findings revealed that students showed preference for more interactive learning methods and "Wordwall" was proven to significantly increase both their motivation and vocabulary acquisition. Based on these results, the application is considered a suitable strategy for successful English language learning.

**Keywords:** *Mobile Game, Web-Based wordwall, Motivation, Vocabulary.*

## Introduction

It is necessary to acquire a robust vocabulary in order to study English. According to Amirsai, one of the most crucial abilities for improving a learner's capacity to carry out activities and comprehend English (receptive skills) is vocabulary (Amirzai 2021). This refers to vocabulary that has a purpose in the procedure for instructing and acquiring knowledge which is linked to language competencies (Br Simamora and Oktaviani 2020). Specifically, word choice speaking skills plays an important role in communication, social reflection reality, emotional promoter, and predictor of academic ability (Elmahdi and Hezam 2020). Adequate vocabulary will enable students to understand and use English effectively.

However, many students have low motivation to learn English. The consequences of low student motivation in learning English are that students cannot understand and use English effectively in everyday communication. They also cannot use English as a tool to access information and knowledge from various sources. Most students today use their smart phones to play games during recess. However, this activity does not add to their knowledge and can disrupt their concentration during learning. As a result, they find it difficult to focus on the lesson material in class and their test scores decline. In addition, this activity can also make students lazy to learn, because they are more interested in playing games than studying.

One challenge encountered by students is low motivation in studying. Students with low motivation in learning English often lack a clear purpose in learning the language. They are easily distracted by other activities, such as playing games, watching TV, or using social media, which makes it difficult for them to focus on learning English. Owe is showed that teaching methods can affect students' motivation in learning, and that insufficient media, strategies, and materials can also have a negative impact(Owei 2018)(Yulfi and Aalayina 2021) One of the root causes of students' lack of interest in programming is the difficulty of concepts such as variables, loops, arrays, and syntax. Elements of the educational environment, such English professors, Conditions for learning English (such as classrooms, seating preparations), with hands-on instruction environments can also influence student motivation(Abrar et al. 2018; Getie 2020).One approach to tackling the challenge of teaching and learning programming concepts is to utilize gamification, which entails integrating game-like elements into educational activities. Gamification can be used to make learning more engaging and motivating for students, and to help them to overcome difficult concepts.

There are many methods to increase student learning motivation. One that can be applied is the use of games. Game is a learning medium that can be employed to enhance student learning motivation. Games can make learning more fun and interesting, and can provide challenges and feedback that can motivate students to learn. Several studies have shown that well-designed mobile games can increase students' motivation. Games are something unique and special because they function as powerful and very basic learning tools(Koster 2012).Game-based learning is a direct interactive learning activity that gradually embeds ideas and guides students towards the final goal(Anastasiadis, Lampropoulos, and Siakas 2018).

Games play a crucial part in skill advancement but interactions between pupils, assisted by Games are a significant component as well (Barr 2018). Soryoharjono also state that the game is an ice breaker which is a simulation activity that involves students so that the class becomes active and fun (Suryoharjono 2023).

In today's technological era, the thing that almost everyone is most interested in is online games. This online game turned out to have a positive impact on mastering English vocabulary because almost all of the instructions were in English. This shows that mobile games that are appropriate to children's development have the potential for vocabulary learning (Dore et al. 2019). The application of mobile applications positively affects pupils' reading proficiency and learning motivation (Sofiana and Mubarak 2020). Digital gaming techniques, especially mobile gaming, have become a great way to motivate new language learning (Elaish et al. 2019). Digital games can be used to educate, motivate, and pique students' curiosity, making them powerful tools for improving student learning and performance in daily classroom practice (Papadakis 2018). The EVLAPP-SRLM offers greater advantages for field-specific students instead of autonomous students in terms of performance and learning motivation (Chen, Chen, and Yang 2019).

The prevalence of online games presents a unique opportunity to harness their engaging nature for educational purposes. Research suggests that well-designed mobile games can effectively improve English vocabulary acquisition, reading proficiency, and overall learning motivation. While some studies highlight the benefits for specific student groups, the potential for broader application is undeniable. By embracing the power of digital games, educators and developers can create a dynamic and motivating learning environment, fostering a love for the English language and a thirst for knowledge.

Therefore, this research aims to create a mobile application for games in order to boost pupils' learning inspiration for acquiring vocabulary in English. Throughout this study, the investigator will decide the limitation of the issue. It only focuses on analyzing and developing website "wordwall".

## **Method**

The method that researchers use is the Research and Development (R&D) approach. The R & D research method was chosen in this research because it is relevant to the research objective, namely to produce digital-based learning media while testing its effectiveness. Research and development (R&D) is a process or series of steps to develop a new product or improve an existing product that can be accounted for.

Borg and Gall (1983) outlined a 10-step process for developing educational materials. It starts with research (literature review, needs assessment, and framework building) to understand the problem and define goals. Then, planning

involves outlining skills, objectives, and research steps. A draft product is created and tested with a small group (3-4) through interviews, questionnaires, or observations. Feedback informs revisions before a wider trial (5-15) with a more diverse group. This may involve an experimental design for detailed data. More revisions based on this feedback lead to an operational model. This model is then validated in a large-scale test (30-40) with various data collection methods. The final product is created based on this data and then disseminated (through seminars, publications, etc.) to educators for implementation.

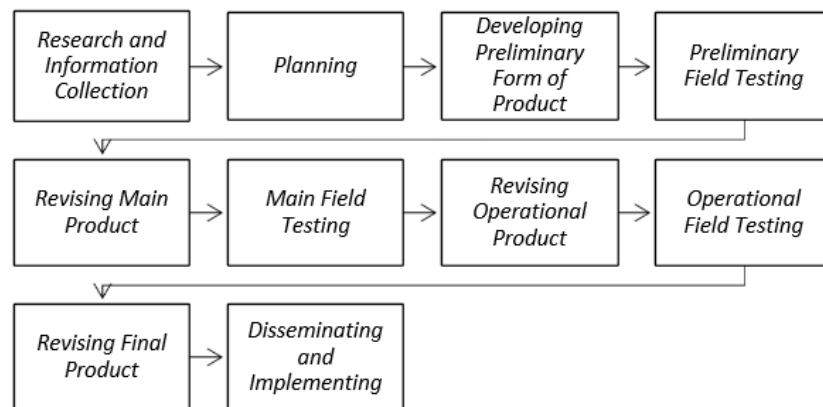


Figure 1. R&D Method Steps (Borg & Gall, 1983)

Mawardi (2014) simplifies the ten steps of Borg and Gall's R&D into three main steps, although each main step is further broken down into sub-steps. The three main steps are: 1) the Preliminary Study stage; 2) the Design and Development stage; and 3) the Testing stage (Hakim et al. 2023).

## Results

The research and development of English language educational game media based on wordwall to enhance the motivation of Grade VII Junior High School Students has been conducted using the Research and Development (R&D) method. The model used in this research is the ASSURE development model, which consists of 6 stages: Analyze Learner, State Objectives, Select Media or Materials, Utilize Media and Materials, Require Learner Participation, Evaluate and Revise. This research aims to facilitate students and teachers in implementing enjoyable learning. The development of this learning media is packaged in a class that contains materials, videos, assignments, and fun games for students, so it is expected to increase student motivation in the future.

This research was conducted at SMP Negeri 7 Palopo. First, the researcher conducted interviews with the teachers. The researcher conducted a needs analysis on the teachers. The analysis revealed that the teaching materials were inadequate, thus necessitating the development of media to enhance student motivation in English vocabulary learning, students who had difficulty understanding vocabulary due to the monotonous learning process, so there was a need for learning media that could attract students' attention in learning by maximizing the use of technology.

Based on the problems at the school and the needs required in grade VII to increase student motivation, the researcher compiled a draft product for the development of a web-based English educational game using wordwall to enhance student motivation. After the product draft was completed, the researcher then conducted guidance with the supervisor regarding the product that had been made. After making revisions from the supervisor, the researcher then conducted an expert validation test on the material, media, and learning design. After making revisions based on the expert validation of the material, media, and learning design, the product was then tested on students.

### **1. Preliminary Study Results on the Development of Wordwall-Based English Educational Games to Enhance Motivation of Seventh Graders.**

Based on the preliminary study results, it can be concluded that schools are in dire need of media that can support the learning process, especially in grade VII. Interviews with grade VII teachers revealed that teachers face difficulties in delivering teaching materials. This is due to the monotonous nature of classroom teaching, which relies solely on textbooks and lecture methods. Additionally, assignments are also based solely on textbooks, leading to some students becoming distracted, unfocused during teacher explanations, and even bored. Based on observations conducted before the intervention, it was determined that the main problem in English language learning is the lack of student motivation to participate in learning process. As teachers only explain the material without using any supporting media that could make students more enthusiastic and motivated during the learning process.

### **2. Initial Product Draft Development**

The development of English language educational game media based on Wordwall to increase the motivation of seventh-grade students uses the Research and Development (R&D) method by Borg and Gall which has been modified by Mawardi and combined with the ASSURE development model. The following are the steps of the ASSURE model:

#### **1) Analyze Learner Characteristic**

The first step in the ASSURE development model is to analyze the characteristics of the learners. This step is used to support the initial data in the

preliminary study. The data objects required to analyze students' characteristics involve conducting a needs analysis and assessing students' initial ability to comprehend the material in chapter 3, "Home Sweet Home". Both the needs analysis and the questionnaire on students' initial abilities will be used as a preliminary reference in the subsequent research and development of the Wordwall web-based educational game media.

The data were obtained from the researcher's Needs Analysis instrument through the question: 'What changes need to be made in the learning process to anticipate learning difficulties?' Their responses, based on percentages, were as follows: 80% suggested changes to the material and additional learning aids, 15% indicated a need for adjustments in teaching activities and teacher responses during classroom management, and 5% pointed to the need for changes in the patterns of interaction with the teacher during lessons. Additionally, 90% reported difficulty in recalling previously learned vocabulary. When given a choice, 80% preferred educational games as their favored method for enhancing their English vocabulary.

Based on the results of the analysis instrument, it was shown that 70% responded that the learning atmosphere that had occurred so far was boring, 10% responded that the learning atmosphere that had occurred was tense and 100% wanting a pleasant learning condition makes it easy to increase learning motivation.

The Needs Analysis instrument in this study revealed the following problems faced by the students: insufficient learning materials and other supporting tools, difficulty in recalling previously learned vocabulary, and a mismatch between the activities they enjoy and those provided by the teacher.

## 2) States Objectives

The formulation of learning objectives is derived from the analysis of the learning objectives sequence and the indicators of achievement of learning objectives in the teacher's book chapter 3 "home sweet home" units 1, 2, & 3 in accordance with the Merdeka Curriculum. The following are the formulated learning objectives to achieve the desired goals:

No	learning achievements	Learning Objectives
	At the end of Phase D, students are expected to be able to use spoken, written and visual texts in English to interact and communicate in more diverse contexts and in formal and informal situations, various types of texts such as narratives,	Unit 1: describe rooms in a house and things in the rooms
		1. Describe rooms in a house.
		2. Describe things in the rooms
		Unit 2: Talk about what people do and use to clean up a house
		1. Talking about what people

	descriptions, procedures, special texts (short messages, advertisements) and original texts are the main references in learning English in this phase. In this book, the texts that are focused on are descriptive texts, procedures and short messages. Apart from that, students are encouraged to use English to discuss and express desires/feelings. Students are also able to better understand written text and inference skills emerge when understanding implied information. They are able to create structured written and visual texts in English with a more diverse vocabulary by understanding the purpose and audience in their creation.	do and use to clean up a house. 2. Describe household activities 3. Describe things to use to clean up 4. Use simple present tense to describe things
		Unit 3: Give instructions on how to do something.
		1. Giving instructions how to do something. 2. Describe cleaning up activities

By playing the Wordwall game, students are able to:

- Describe rooms in a house and things in the rooms.
- Talk about what people do and use to clean up a house
- Give instructions on how to do something.

### 3) Select Methods, Media and Materials

The third stage is choosing the method, media, and teaching materials. The selection of methods, media, and teaching materials to support the development of media used for the learning process in grade VII:

#### a. Select Methods

The method that will be used in this research is using assignment methods, games, questions and answers.

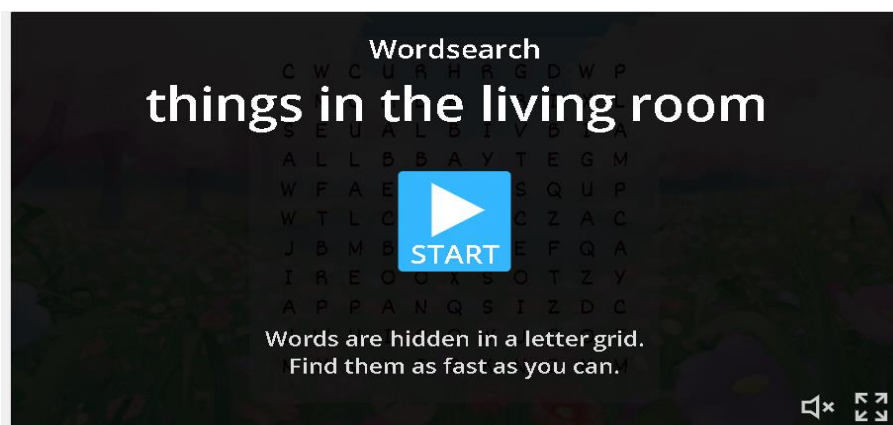
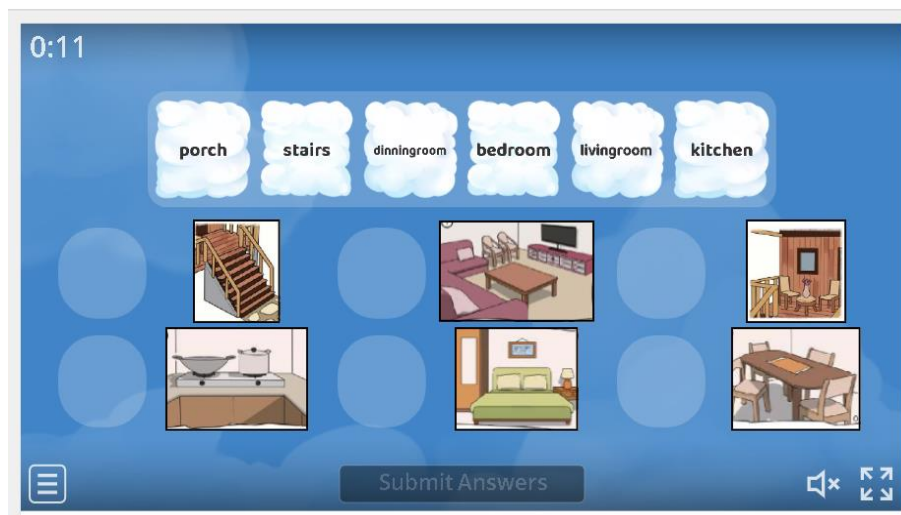
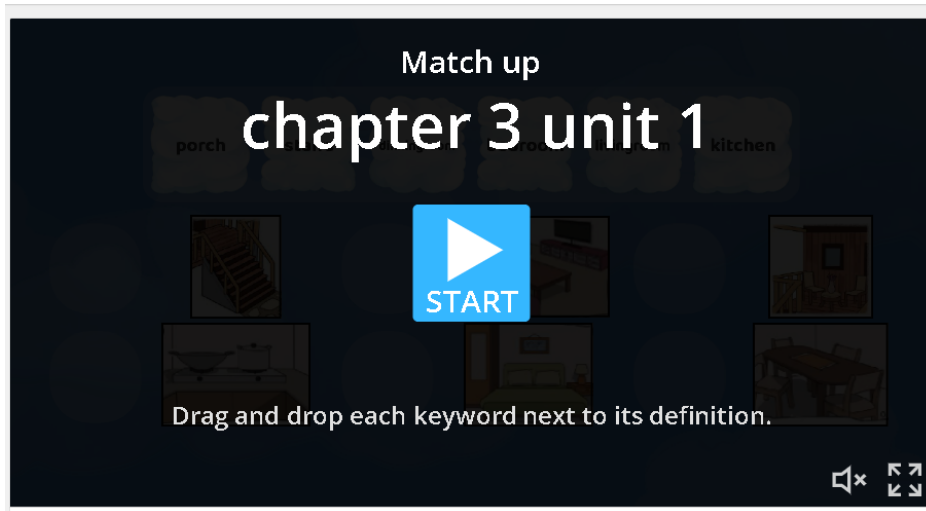
#### b. Select Media

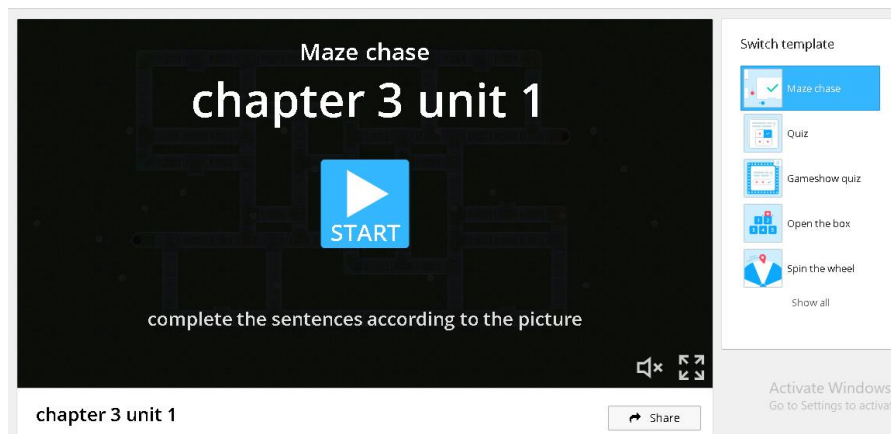
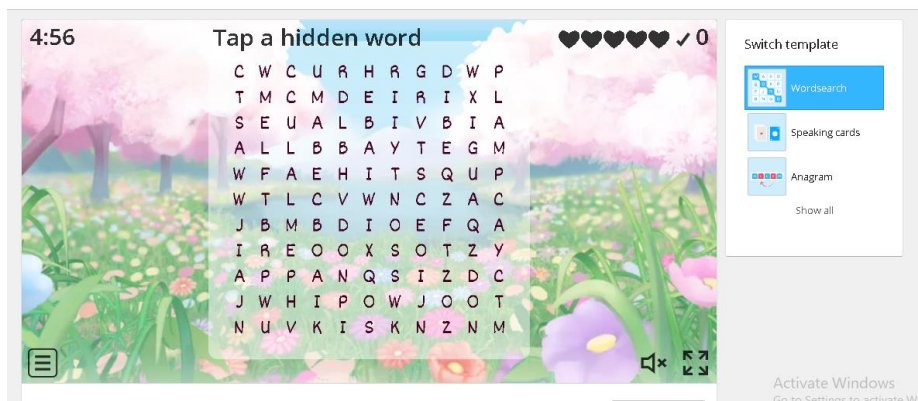
In this learning activity, educational game media based on Wordwall will be utilized to enhance the learning outcomes of seventh-grade students. The implementation of this media will involve the utilization of WhatsApp groups and the Wordwall website. Students will be assigned tasks via the WhatsApp group, including a Wordwall link to access and engage in the educational games.

#### c. Produce teaching materials

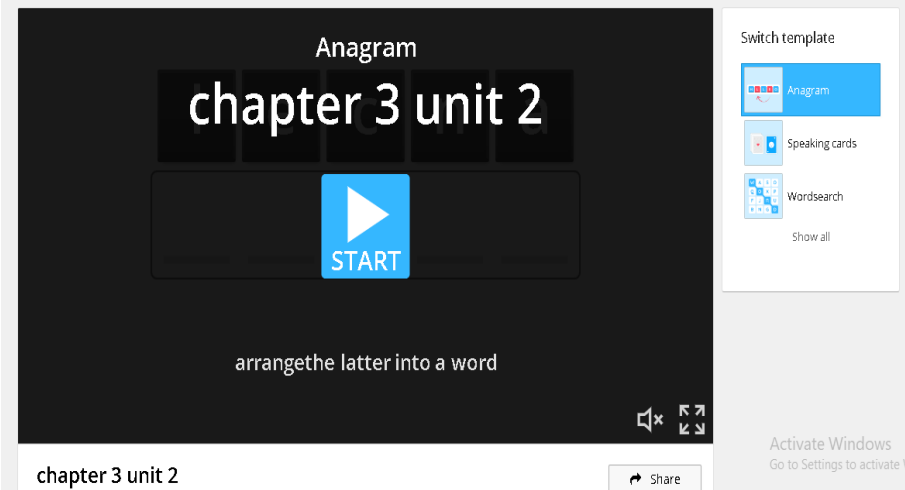
In this study, the development of an English educational game media based on the web Wordwall was conducted to increase the motivation of seventh-grade students. The following are the media that were produced:

Game Wordwall student worksheets 1





*Game Wordwall student worksheets 2*

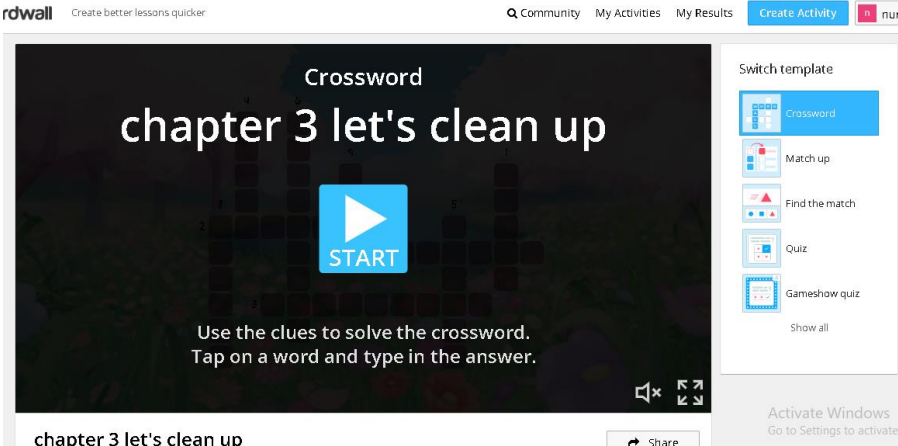


The interface shows a game titled "Anagram" for "chapter 3 unit 2". A large blue "START" button is in the center. Below it, the text "arrangethe latter into a word" is displayed. On the right, a "Switch template" menu lists "Anagram", "Speaking cards", and "Wordsearch", with a "Show all" link. The bottom left shows "chapter 3 unit 2" and a "Share" button. The bottom right has an "Activate Windows" watermark.

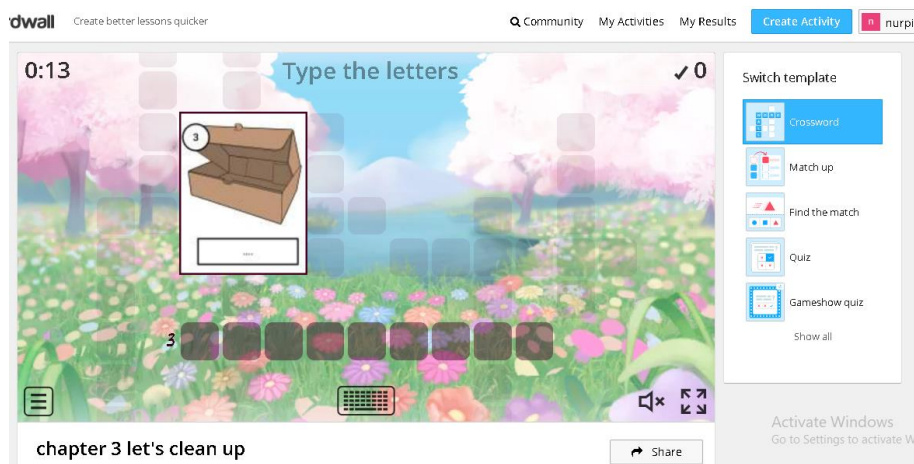


The interface shows the game in progress. The timer is at 0:06. The letters "l", "e", "c", "n", "a" are in individual boxes above a five-letter input field. The progress bar shows "1 of 7". On the right, the "Switch template" menu is visible. The bottom left shows "chapter 3 unit 2" and a "Share" button. The bottom right has an "Activate Windows" watermark.

*Game Wordwall student worksheets 3*



The interface shows a game titled "Crossword" for "chapter 3 let's clean up". A large blue "START" button is in the center. Below it, the text "Use the clues to solve the crossword. Tap on a word and type in the answer." is displayed. On the right, a "Switch template" menu lists "Crossword", "Match up", "Find the match", "Quiz", and "Gameshow quiz", with a "Show all" link. The bottom left shows "chapter 3 let's clean up" and a "Share" button. The bottom right has an "Activate Windows" watermark.



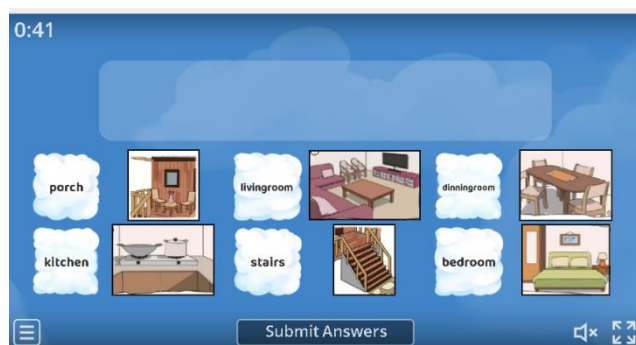
#### 4) Utilize Media and Materials

The fourth step is the use of media and teaching materials. Here are the guidelines and rules for developing English educational game media:

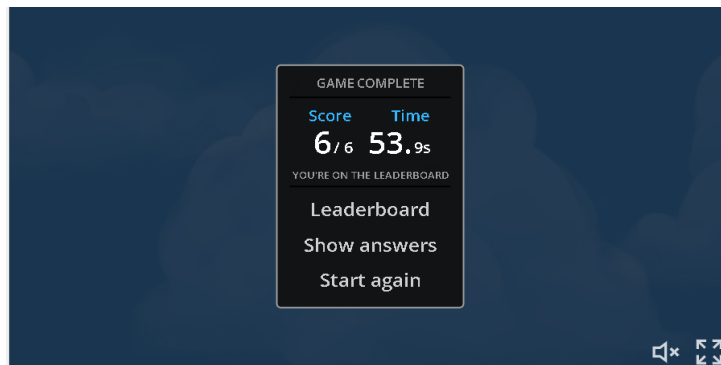
- How to play the game, click the game link on WhatsApp
- After entering the game, click the 'Start' button to begin playing



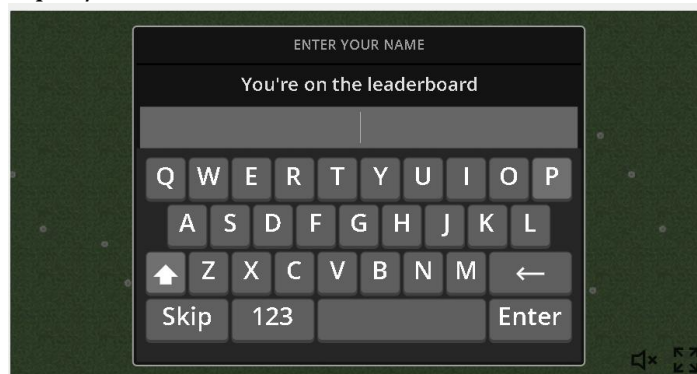
- Click submit answer



- To check your progress, complete the quiz. Once you have finished answering the questions, your score will be displayed as shown in the image below:



- e. Click the leaderboard to enter your name and to see who is the fastest to finish the quiz/test



- f. Click 'Show Answers' to check out the questions and answers you've done
- g. Click start again to repeat the game
- 5) Require Learner Participation

Step 5: Student participation using Grade VII students. Student involvement in this research is very important to determine the success of developing a web-based wordwall English educational game media to increase the motivation of Grade VII students.

#### 6) Evaluate and Revise

This step is conducted to evaluate and revise the development of the web-based wordwall English educational game media to increase the motivation of Grade VII students. The goal is to ensure that the media is valid and effective for use in the learning process.

#### 2. Expert validation test

The initial draft of the product, once completed, will be consulted with the academic advisor and then tested by experts to assess its feasibility. The researcher used two expert validations with lecturers from IAIN Palopo: Mrs. DewiPurwana for material expertise and Mr. Sukirman for media and design expertise in the development of a web-based mobile game to enhance student motivation.

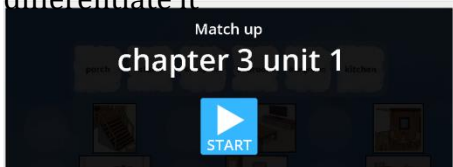



- a. Results of the material validation analysis on the development of a web-based mobile game to enhance the motivation of seventh-grade junior high school students.

Aspect	Indicator	Score	
Relevance	Alignment of teaching materials with the school curriculum	$P = \frac{5}{5} \times 100 \%$	highly Valid
	Relevance of teaching materials to the competency's students must acquire	$P = \frac{5}{5} \times 100 \%$	highly Valid
	Relevance of questions/quizzes to the competency's students must acquire	$P = \frac{5}{5} \times 100 \%$	highly Valid
	Comprehensiveness of teaching materials, aligned with students' developmental levels	$P = \frac{5}{5} \times 100 \%$	highly Valid
Accuracy	Alignment of teaching materials with scientific accuracy	$P = \frac{4}{5} \times 100 \%$	Valid
	Depth of content explanation,	P	highly Valid

	appropriate for students' developmental levels	$P = \frac{5}{5} \times 100 \%$	
	Relevance of teaching materials to everyday life	$P = \frac{5}{5} \times 100 \%$	highly Valid
	Suitability of images, photos, and videos in clarifying the material	$P = \frac{5}{5} \times 100 \%$	highly Valid
presentation format	Explanation of the material in aligns with English language learning principles	$P = \frac{5}{5} \times 100 \%$	highly Valid
	Material follows a logical progression from simple to complex concepts	$P = \frac{4}{5} \times 100 \%$	Valid
	Presentation of material in media uses clear and concise language	$P = \frac{5}{5} \times 100 \%$	Highly Valid
	Logical sequence of the presented material	$P = \frac{4}{5} \times 100 \%$	Valid
Total		$P = \frac{57}{60} \times 100 \%$ $= 95 \%$	

Based on the results of the calculations in the table above, of the 12 Indicators, there are 9 indicators that have a very valid value with a percentage of 100%, there are 3 indicators that have valid value with a percentage of 80%. The total of all indicators with a valid value is 95 %.

### Revision of Material Expert Validation Test

No.	Improvement suggestions	Improvement
	<p>The title of the game in unit 1 is the same. it is better to differentiate it</p>  	 

- b. Results of the design validation analysis on the development of a web-based mobile game to enhance the motivation of seventh-grade junior high school students.

Aspect	Indicator	Score	
Component	Suitability of materials, learning objective sequence, and the indicators of learning objective achievement	$P = \frac{5}{5} \times 100 \%$	highly Valid
	Appropriateness of time allocation and learning steps	$P = \frac{4}{5} \times 100 \%$	Valid
	Appropriateness of learning methods/models for student characteristics	$P = \frac{5}{5} \times 100 \%$	highly Valid
	Ease of access to learning media	$P = \frac{5}{5} \times 100 \%$	highly Valid

	Clarity of assessment of learning outcomes.	$P = \frac{5}{5} \times 100 \%$	highly Valid
Principle	Level of student activity in learning	$P = \frac{5}{5} \times 100 \%$	highly Valid
	Level of student involvement in learning	$P = \frac{5}{5} \times 100 \%$	highly Valid
	Clarity of feedback and follow-up procedures	$P = \frac{5}{5} \times 100 \%$	highly Valid
	Integration with other subject (if applicable)	$P = \frac{4}{5} \times 100 \%$	Valid
	Effective use of technology	$P = \frac{5}{5} \times 100 \%$	highly Valid
Total		$P = \frac{48}{50} \times 100 \%$ $= 96 \%$	

Based on the results of the calculations in the table above, of the 10 Indicators, there are 8 indicators that have a very valid value with a percentage of 100%, there are 2 indicators that have valid value with a percentage of 80%. The total of all indicators with a valid value is 96 %.

- c. Results of the media validation analysis on the development of a web-based mobile game to enhance the motivation of seventh-grade junior high school students.

Aspect	Indicator	Score	
Appearance	Suitability of media background selection	P $= \frac{4}{5} \times 100\%$	Valid
	Suitability of font type and size	P $= \frac{4}{5} \times 100\%$	Valid
	Suitability of color selection within the media	P $= \frac{5}{5} \times 100\%$	Higly Valid
	Suitability of images, photos, audio, and video usege	P $= \frac{5}{5} \times 100\%$	Higly Valid
	Overall quality of instructional media display	P $= \frac{5}{5} \times 100\%$	Higly Valid
Media content	Alignment of the game's content with the learning material	P $= \frac{4}{5} \times 100\%$	Valid
	Suitability of the game for the intended learning model	P $= \frac{4}{5} \times 100\%$	Valid
	Effectiveness of the game in facilitating and enhancing learning	P $= \frac{5}{5} \times 100\%$	Higly Valid
	Utilization of the game's features to increase student motivation	P $= \frac{5}{5} \times 100\%$	Higly Valid
Language	Clarity of language used in instructions and feedback	P $= \frac{5}{5} \times 100\%$	Higly Valid
	Effectiveness of sentences used within the game	P $= \frac{5}{5} \times 100\%$	Higly Valid
	Standard usage of English terms and vocabulary	P $= \frac{4}{5} \times 100\%$	Valid
Practicality in use	Ease of use and navigation within the game	P $= \frac{5}{5} \times 100\%$	Higly Valid

	Availability of necessary facilities or resources for using the game (e.g., internet access)	$P = \frac{5}{5} \times 100\%$	Highly Valid
	Ease of access to buttons and interactive elements	$P = \frac{5}{5} \times 100\%$	Highly Valid
Total		$P = \frac{70}{75} \times 100\%$ =93,33 %	

Based on the results of the calculations in the table above, of the 15 indicators, there are 10 that have a very valid value with a percentage of 57%, there are 5 indicators that have valid value with percentage 31%, and need to repair to be perfect 100%. The total of all indicators with a valid value is 93,33 %.

### 3. Product Trial Test

A product trial was conducted with 20 seventh-grade students to determine the effectiveness of developing a game-based media using Wordwall. The effectiveness of learning outcomes was measured through pre-test and post-test results. The pre-test was administered before students learned using the game-based educational media, and the post-test was given after students learned using the media developed by the researcher.

- a. The results of the analysis of students' ability in developing wordwall-based games to increase motivation in vocabulary learning

No.	Name	Pre-Test	Post-test
1.	AZZM	60	90
2.	SIRA	60	100
3.	YhS	53	95
4.	NHIY	57	100
5.	NRAD	53	96
6.	JSN	55	96
7.	GRA	53	87
8.	AND	53	90
9.	DWI	60	96
10.	ALf	87	100
11.	HRA	53	90
12.	OILI	53	95

13.	MLT	57	90
14.	GIN	53	97
15.	MRA	73	90
16.	IBN	53	92
17.	ASHR	53	97
18.	RTU	60	94
19.	KNA	60	90
20.	VANS	53	95
Average		57,95	94

Based on the table above, it can be concluded that students' ability to comprehend Chapter 3, Units 1, 2, and 3 was very low, at only 57.95. The average score indicated that only 2 students could understand the material, while the remaining 18 students were still categorized as not understanding Chapter 3, Units 1, 2, and 3. After conducting research using the Wordwall game method, there was a very significant improvement in students' ability to understand Chapter 3, Units 1, 2, and 3, with a 94 increase in comprehension.

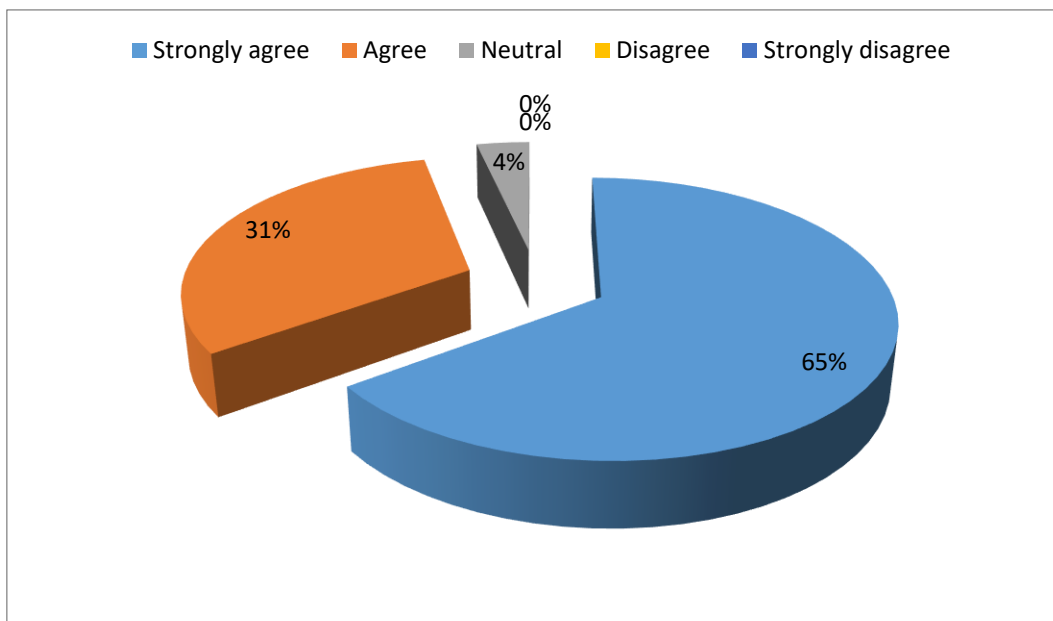
b. Results of the product trial questionnaire

After conducting a limited trial, students were asked to fill out a questionnaire to determine the effectiveness of the media in increasing students' motivation to learn vocabulary.

Product trial questionnaire

No.	Statement	Score				
		1	2	3	4	5
1.	I can use wordwall-based game media easily			1	9	10
2	Using wordwall-based educational game media is a new experience				6	14
3.	The use of wordwall-based educational game media is very interesting and fun			1	14	5
4.	Through the use of wordwall-based educational game media, it becomes easier for me to understand learning			1	8	11
5.	Through the use of wordwall-based educational game media, I understand the material presented in the lesson easily			2	8	10
6.	I can understand the writing and commands in wordwall-based educational game media			2	10	8

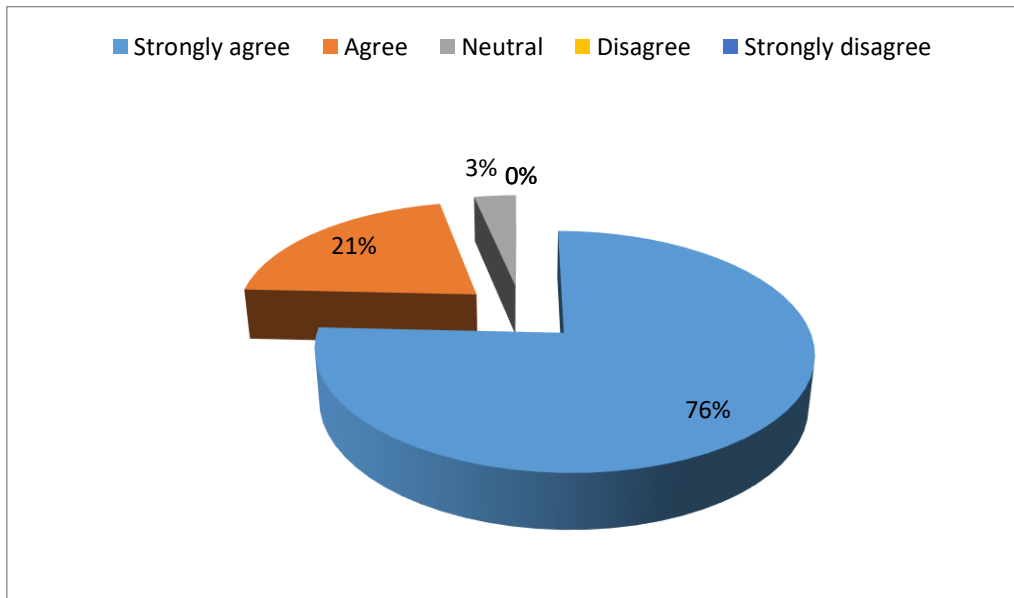
7.	Through this game my vocabulary increases			0	2	18
8.	Using wordwall-based educational game media can increase my motivation in learning				1	19
9.	Game media is useful and interesting for learning English				2	18
10.	Wordwall-based educational game media helps me memorize English vocabulary				3	17



The table above shows that, out of the 10 questionnaires distributed to 20 student respondents, 65% strongly agreed that they were able to understand and comprehend the learning material when using the Worldwall game method. They also responded that this method had a significant positive impact on their motivation to learn. Additionally, 31% of respondents agreed that they were able to understand the learning material using the Worldwall game method, while the remaining 4% were uncertain about the effectiveness of Worldwall in the learning process.

4. Finding of Students' Motivation in Learning Student study motivation scale

No	Statement	Answer				
		1	2	3	4	5
1.	I feel more motivated to learn after using this mobile game			1	9	10
2	I enjoy memorizing vocabulary while playing games				9	11
3.	I will maintain and study harder when I get good grades			2	7	11
4.	Do you feel more confident using new vocabulary in conversations?			4	8	9
5.	I feel more satisfied with my learning results after using this game			1	11	8
6.	I feel more involved in the learning process because of the variety and creativity in this mobile game				9	11
7.	I feel more conducive learning environment when using this game				2	18
8.	I feel very helped in understanding vocabulary through the mobile game				1	19
9.	I feel more consistent in learning vocabulary after using the mobile game					20
10	The features in this mobile game make me more excited to learn vocabulary				2	18
11	Playing games can increase my desire to learn.			2	3	15
12	I am more interested in following lessons through games.					20
13	Games help me achieve my learning goals				2	18
14	Through games, I can learn anywhere, not just in the classroom.					20
15	Learning English while playing games is not boring.					20



Based on the table above, it can be inferred that the use of the Worldwall game significantly increased students' motivation to learn Chapter 3, Units 1, 2, and 3. A substantial 76% of respondents strongly agreed that the game was engaging and motivating. Additionally, 21% agreed, while only 3% were uncertain about its effectiveness in enhancing their learning motivation. These findings strongly suggest that students were highly interested in learning Chapter 3, Units 1, 2, and 3 through the Worldwall game method, as evidenced by the majority of positive responses.

## Discussion

Research conducted by researchers to improve the learning motivation of seventh-grade students at SMP 7 through educational game-based learning media.

1. Student needs analysis for the development of a web-based mobile game at SMPN 7 Palopo.

Several responses also support the findings raised by Deraksan et al. regarding Students were primarily bored due to teachers' lengthy, repetitive lectures, limited opportunities for student involvement, logistical issues, and uninspired, recurring assignments (Derakhshan et al. 2021). Learning motivation is influenced by various factors, including teachers, teaching materials, learning environment, and student characteristics (Meng 2022). This resulted in difficulties in vocabulary acquisition and a lack of engagement in the learning process.

Vocabulary acquisition is essential for English language proficiency (Meng 2022). The more vocabulary we know, the better we can understand reading texts, listen to conversations, and speak and write in English (Br Simamora and Oktaviani 2020). Vocabulary serves as the fundamental building blocks for constructing sentences and communicating ideas effectively (Neuman and Kaefer 2018). A lack of adequate vocabulary hinders our ability to express our thoughts and emotions clearly (Khan et al. 2018). As this research suggests, a shift towards more engaging and interactive approaches is essential to ensure successful vocabulary development in English language learning.

## 2. Design developments web-based mobile game for students in SMPN 7 Palopo

A highly effective method to enhance motivation in vocabulary acquisition is through the implementation of gaming technology. English language learning games are specifically designed to enhance the learning experience through fun and interactive activities (Wichadee and Pattanapichet 2018). Through gameplay, learners can subliminally acquire new vocabulary while enjoying themselves (Sulaiman, Sadq, and Othman 2022). Furthermore, games can enhance learners' confidence in their English language abilities.

The research conducted at SMPN 7 Palopo revealed that the implementation of mobile-based educational games in teaching the "Home Sweet Home" material was highly effective. There was a significant increase in students' average scores, from 57.6% on the pretest to 94% on the post-test, indicating a 36% improvement. These findings suggest that engaging and interactive learning methods such as games can enhance students' motivation to learn and their comprehension of the subject matter. The use of the web-based digital game Wordwall has been shown to significantly enhance students' learning motivation (Safitri et al. 2022). Using Wordwall as a web-based mobile learning medium is an interesting choice (Jannah and Syafryadin 2022). The 'Wordwall' learning design has great potential to improve student learning outcomes. With the right technology and careful planning, Wordwall can be an effective tool for creating enjoyable and meaningful learning experiences.

## 3. Developing a Web-Based Mobile Game to Enhance Vocabulary Learning Enthusiasm

In this study, the researchers utilized various games available on the Wordwall application. The researchers opted for a variety of games that combined education with entertainment. Traditional puzzles like match-up, word search, and crossword provided a fun and familiar way to learn new vocabulary (Anon 2011). The fun maze chase game, where you have to find words hidden in a maze, is a great way for students to improve their spatial reasoning and problem-solving skills (Mar 2021). Games like maze chase and anagrams present more complex challenges, stimulating students' critical and creative thinking. The combination of fun and challenge is expected to make the vocabulary learning process more engaging and

meaningful for students.

With this variety, it is expected that students can find games that best suit their interests and learning styles, thus increasing their motivation and the effectiveness of vocabulary learning.

#### 4. Student Motivation Before and After Web-Based Mobile Game Implementation

The findings of this study demonstrate that the Wordwall game has a substantial impact on enhancing students' language proficiency, with a particular focus on vocabulary acquisition. These positive results highlight the potential for technology to revolutionize language education.

The survey data showed a substantial increase in students' motivation to learn English after engaging with the Wordwall game. A remarkable 96% of students reported finding the game both engaging and motivating, as indicated by the student motivation survey. These quantitative results reinforce the qualitative findings, which suggest a direct correlation between using Wordwall and increased student motivation.

The research findings demonstrate that utilizing the Wordwall digital game platform effectively enhances English vocabulary skills among Grade 7 students at SMPN 7 Palopo.

### **Conclusion**

Based on the research findings and discussions presented in the preceding chapters, the researcher can conclude that the thesis titled "Developing a Web Mobile Game to Enhance Students' Motivation in Learning English Vocabulary" at SMPN 7 Palopo has yielded the following results:

1. The analysis of student needs, based on the survey results, revealed that 80% of students suggested changes to the learning materials and the addition of learning aids. Furthermore, 15% indicated a need for adjustments in teaching methods and teacher responsiveness, while 5% suggested changes in the teacher-student interaction patterns during the learning process. Additionally, 90% reported difficulties in remembering previously learned vocabulary. When given a choice, 80% of students preferred educational games as their favorite method for improving their English vocabulary.
2. The instructional design proposed by the researcher is a web-based mobile game, namely Wordwall. Wordwall is an online learning platform that can be utilized to enhance the learning outcomes of seventh-grade students. The implementation of this media will involve the use of WhatsApp groups and

the Wordwall website. Students will receive assignments through WhatsApp groups, including links to educational games on Wordwall.

3. The researcher developed various games on the Wordwall platform, including match up, wordsearch, maze chase, anagram, and crossword, to enhance students' motivation in learning English vocabulary. These engaging games provided challenges that motivated students to achieve their learning goals. As a result, students successfully acquired new vocabulary without realizing it, as they were having so much fun playing the games. This increased motivation and interest made English vocabulary learning more enjoyable for the students.
4. Based on the data analysis, the use of the Wordwall mobile game has proven to be effective in improving students' vocabulary mastery. This is evidenced by a significant improvement in post-test scores compared to pre-test scores. The interactive learning environment on Wordwall allows students to easily absorb information, while the motivation to achieve goals encourages them to continue learning. Survey results also support these findings, with the majority of students stating that the Wordwall game is effective in learning and increases motivation to learn. Therefore, this research has proven that the development of a web-based mobile game to enhance students' motivation in learning English vocabulary at SMPN 7 Palopo was successful.

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